ABSTRACT OF THE DISCLOSURE

An optical fiber comprises a core region extending along a predetermined axis X, and a cladding region surrounding the core region. The cladding region 14 comprises first to (N+1)-th regions such that the first region surrounds the core region, and the (k+1)-th region surrounds the k-th region (k=1,2,...,N). At least one of the first to (N+1)-th regions includes, in a main medium having a predetermined refractive index, a sub-region made of an auxiliary medium having a refractive index different from that of the main medium. Letting n[0] be the average refractive index of the core region, and n[k] (k = 1, 2, ..., N+1) be the average refractive index of the k-th region, this optical fiber satisfies the relationship of n[0] > n[1], and n[i] > n[i+1] ($\forall$ i = h, h+1, ..., h+m; where h and m are natural numbers).